## **ABSTRACT**

A catalyst for use in producing an unsaturated aldehyde and an unsaturated carboxylic acid which is excellent in catalyst activity and selectivity to the unsaturated aldehyde and the unsaturated carboxylic acid, a method for producing such a catalyst and a method for producing an unsaturated aldehyde and an unsaturated carboxylic acid by using such a catalyst are provided. A method for producing a catalyst containing at least molybdenum, bismuth and ironfor use in producing an unsaturated aldehyde and an unsaturated carboxylic acid through gasphase catalytic oxidation of propylene, isobutylene, tertiary butyl alcohol or methyl tertiary butyl ether with molecular oxygen comprises the steps of kneading particles containing catalyst components, an organic binder and a liquid and extrusion molding the resultant kneaded mixture, the organic binder containing at least a high-viscosity organic binder having a viscosity (of its 1% water solution or dispersion at 20°C) of from 5,000 mPa·s to 25,000 mPa·s and a low viscosity organic binder having a viscosity (of its 1% water solution or dispersion at 20°C) of from 10 mPa·s to less than 5,000 mPa·s.

A method for producing a catalyst containing at least molybdenum, bismuth and iron including the steps of kneading particles containing catalyst components, an organic binder and a liquid, where the organic binder contains at least a high-viscosity organic binder having a viscosity of from 5,000 mPa·s to 25,000 mPa·s and a low-viscosity organic binder having a viscosity of from 10 mPa·s to less than 5,000 mPa·s, and extrusion molding the resultant kneaded mixture is provided.